

Electronic Waste

Michigan 4-H Youth Conservation Council

Overview

It is the goal of the 2014/2015 Michigan 4-H Youth Conservation Council to present to the Senate Natural Resources Committee, on the topic of electronic waste and its effects on Michigan. Our members will be covering topics varying from electronics waste's effects on living organisms and the environment, current regulations that are in place in Michigan, regulations that are being used in other states and countries, followed with the compiled recommendations that have been brought about by the members of our council. We hope that our presentation will be informative as well as helpful in the creation of possible new bills related to electronic waste in Michigan. We believe that by re-evaluating and changing the current legislation that is in place regarding electronic waste, we will be able to ensure the future and longevity of our state's human health and environment.

E-Waste Definition

- E-waste includes
 - Cell phones
 - Computers
 - Televisions



www.hawaiizerowaste.org

E-Waste Composition

- Valuable Substances
 - gold
 - platinum
 - Iron
 - glass
 - plastics



www.dailymail.co.uk

E-waste Recyclers

- Improper recyclers
 - China
 - Africa
 - India
- Proper recycling
 - Removal of hard drive
 - Shredding



www.eworldrecyclers.com

Electronic Skimmers

- Steal personal information
- Not illegal



en.wikipedia.com

Landfills

- 85% of electronic waste goes to landfills
- More than 4.6 million tons of e-waste goes to landfills annually
- Many states have banned e-waste from landfills
- Michigan has other products that are banned



www.mariposacounty.org

Toxins Found in E-Waste

- Most prevalent toxins
 - Mercury
 - Sulfur
 - Lead



www.glogster.com

Health effects

- Detrimental effects on the human body
 - Nervous system damage
 - Liver damage
 - Kidney damage
 - Heart damage
 - Cancer
 - Impaired cognitive functions
 - Damage to DNA



scienceblog.cognifit.com

Effects on Animals

- Choking or Entanglement Hazard
 - Improperly disposed of waste
- Mercury
 - Lower survival rate of waterfowl eggs
 - Bioaccumulation in aquatic animals
 - Predators effected by contaminated prey



ecowatch.com

Effects on Animals

- Lead

- Quick lead poisoning
- Shuts down major organs, leads to coma
- Bioaccumulation in predators

- Arsenic

- Affects rainbow trout digestion
- Lowers toad egg viability



www.tufts.edu

Effects of E-Waste Toxins on Soil

- Very static
- Hard to remove
- Extends toxins everywhere



www.earth911.com

Effect of E-Waste Toxins on Plants

- Easily absorbed
- Very reactive
- Spread through

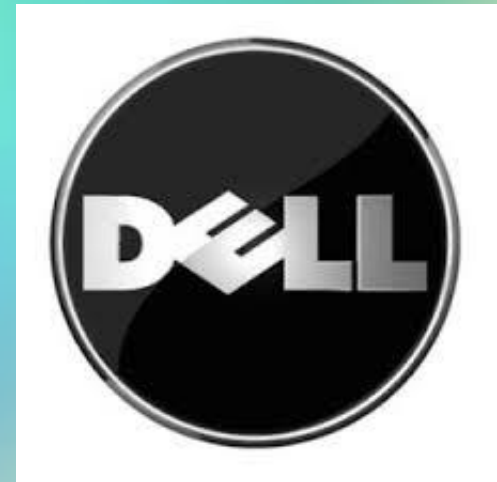


Help keep electronic waste from growing.

www.isidorerecycling.com

Manufacturer and Recycler Registration

- “Reasonably convenient” take back program
- Manufacturers and recyclers report the amount in tons that they collected
- Recyclers report how much e-waste was outsourced



www.deviantart.com

Current Programs in Michigan (Recyclers)

- Part 173—Electronic Takeback Law (1994)
- Electronic Waste Takeback Program(2008)
 - Register with the DEQ
 - Comply with federal/state law
 - Report information



myecollective.com

Current Programs in Michigan (Manufacturers)

- Electronic Waste Takeback Program(2008)
 - Register with the DEQ
 - Inform consumers
 - Submit annual information
- Have Takeback Program
 - “free and convenient”



www.ci.patterson.ca.us

Types of Programs

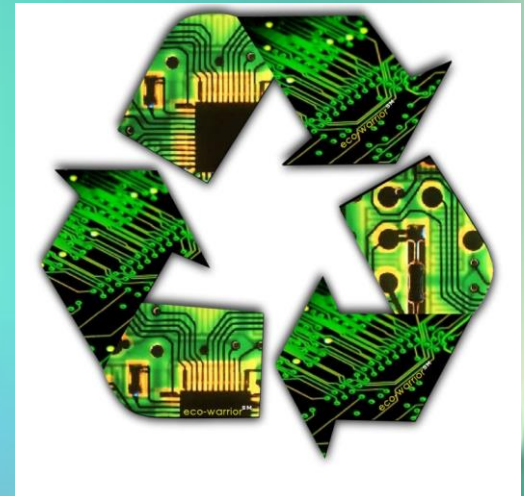
- **Producer Responsibility**
 - Manufacturers must pay for and organize recycling
- **Consumer Responsibility**
 - Consumers pay for recycling at the time of purchase



www.mlive.com

Most Effective States

- Vermont-7.7 pounds per capita
- Wisconsin, Oregon, Minnesota, and Maine-6.5 pounds of material per capita



www.wasterasers.com

Australia's E-Waste Program

- The first national e-waste program – 2012
- The Hazardous Waste Act of 1989
- National Television and Computer Recycling Scheme



www.vidiani.com

Ontario's E-Waste Program

- Electronic Waste Recycling Program
- 2010-2011: 34,585 tons of e-waste was recycled
- Funded by brand owners and first importers
- Funds cover collecting, transporting, and processing the e-waste



geology.com

Wisconsin

- Places to recycle E-Waste at every school
- Manufacturers must fund a certain amount of recycling



greenportnetwork.org

Indiana

- Land-fill Bans
- Manufacturers are responsible
- Multiple places to recycle E-Waste



www.earthtimes.org

Illinois

- Set goals for manufacturers
- Provides a list of places to recycle E-Waste



app2.nea.gov.sg

Updating Current Laws

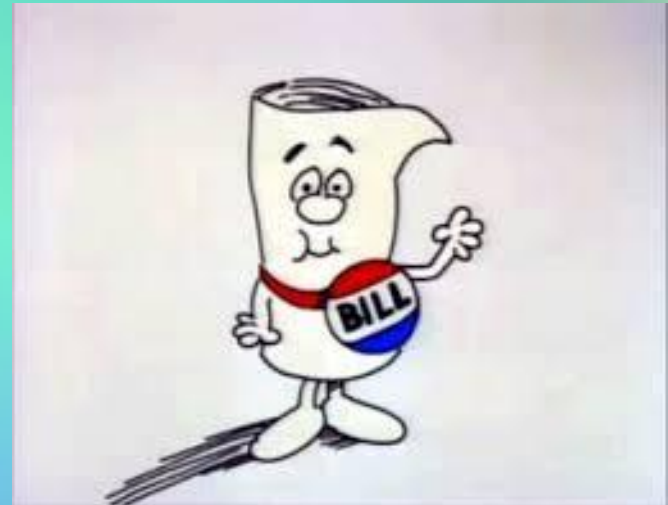
- Covered electronics
- Classification of small business
- Allow schools to recycle electronics



www.merchanttechnology.co.uk

Recommended Changes

- Statewide network of convenient collection locations
- Recycling goals
- Data
- Landfill ban
- Enforcement



lesterandcharlie.com

Consumer Data Collection

- Participation in take back program
- It will create more data and can be compared to current data
- Find solutions and improvements



wineglassmarketing.com

Landfill Bans

- Over 3.2 million
- Illinois, Wisconsin, Florida, and Minnesota all have bans
- Penalize landfills for violations
- Landfills can fine people responsible



nationswell.com

Education

- Mass Media
 - News
 - Internet
- Human Interactions
 - Public interaction
 - Point of sale



likeateam.com

Summary

The Michigan 4-H Youth Conservation Council has come to the conclusion that electronic waste is an ever growing threat not only to the health of the environment, but the health of consumeristic society which has developed throughout the years. Through research and discussion, the council has found that the most effective strategy to deal with this threat is a combination of systems. These systems will allow for electronic waste to be recycled at the ease of the consumer with updated methods for data collection, while also aiding in the deprecation of waste being dealt with in a landfill setting. These regulations will impose a penalty for improper disposal of the waste, as well as penalizing landfills for violations concerning the regulations. This will allow for the further degradation of the environment to be limited, as well as for the health of those groups affected by electronic waste to be brought into concern. It is the council's belief that the impositions of this combined system will allow for a long term solution to the current issue.